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STUDY OF CLINICAL PROFILE OF PATIENTS ADMITTED WITH INTRACEREBRAL HEMORRHAGE IN A TERTIARY CARE HOSPITAL

Atul S Narayankar[1], Sachin S Pandit[2], Sangram S Mangudkar[3], Sachin K Shivnitwar[4]

[1]Consultant Medical Oncologist, Wockhardt Hospital, Mumbai.

[2]Assistant Professor, Department of Medicine, Dr. D.Y. Patil Medical College, Dr D Y Patil University (DPU), Pimpri, Pune, Maharashtra, India.

[3]Associate Professor, Department of Medicine, Dr. D.Y. Patil Medical College, Dr D Y Patil University (DPU), Pimpri, Pune, Maharashtra India.

[4]Associate Professor, Department of Medicine, Dr D.Y. Patil Medical College, Dr D Y Patil University (DPU), Pimpri, Pune, Maharashtra India.

Corresponding Author

Dr. Sachin K Shivnitwar, Associate Professor, Department of Medicine, Dr D.Y. Patil Medical College, Dr D.Y. Patil University (DPU), Pimpri, Pune, Maharashtra India – 4011018.

Email address: drsachin_shiv@yahoo.in

Abstract

Aim: To study the clinical profile of patients admitted with Intracerebral hemorrhage in a tertiary care hospital.
Method: Patients admitted in the Medicine ward and Intensive care unit (ICU) were selected for the study. their clinical profile in terms of age, sex, complaints on admission, risk factors, and location of intracerebral hemorrhage on CT (Computed Tomography) scan studied.
Results: Hypertension is the most common risk factor for intracerebral hemorrhage especially in the elderly and the Gangliocapsular region is the most common site for intracerebral hemorrhage.
Conclusion: Elderly patients should be routinely screened for hypertension and other risk factors like diabetes, smoking, and dyslipidemia and appropriate measures to be taken to prevent any complications like intracerebral hemorrhage.

Keywords: Intracerebral hemorrhage, Gangliocapsular region, Hypertension.

Introduction

Cerebrovascular accident (CVA) or stroke is the most common life-threatening disorder. It is the third leading cause of death in the developed countries after cardiovascular disease and cancer. [1] A stroke, or cerebrovascular accident, is defined as an abrupt onset of a neurological deficit that is attributable to a focal vascular cause. Thus, the definition of stroke is clinical, and laboratory studies including brain imaging are used to support the diagnosis. The clinical manifestations of stroke are variable because of the complex anatomy of the brain and its vasculature. Intracranial hemorrhage is caused by bleeding directly into or around the brain; it produces neurologic symptoms by producing a mass effect on brain structures, from the toxic effects of extravasated blood itself, or by increasing intracranial tension.

CVA or strokes are capable of causing crippling morbidity in young as well as elderly individuals. They also have marked social, psychological, and economic implications. Due to its wide prevalence and its high cost in economic terms as well as human disability, cerebrovascular accidents have evoked much interest in the medical fraternity. The advent of computed tomography in the early 1970s greatly facilitated the diagnosis and management of stroke. [2] Computed Tomography (CT) scan differentiates cerebral infarction and hemorrhage and also helps to differentiate other lesions like a tumor, cyst, granuloma, etc. [3]

The mini-open approach has the benefits of less perioperative morbidity and a decreased risk of deltoid detachment, as the split in the deltoid is limited to the lateral deltoid. (5) The mini-open approach is most appropriate for small- to medium-sized tears encompassing a one-tendon tear of the supraspinatus, or possibly a two-tendon tear of the supraspinatus and the upper half of the infraspinatus. (6) These are not suited for tears with fixed humeral head elevation, significant chronic retraction of the tendon, or evidence of fatty infiltration and atrophy of the muscle belly. Transosseous suturing gives more biological fixation with greater contact and pressure distribution. (7) The purpose of this study was to assess the functional outcome of the cost-effective transosseous Mini open transosseous rotator cuff repair for complete rotator cuff tear of the shoulder.

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Methods

100 patients with spontaneous non-traumatic Intracerebral hemorrhage (ICH) who were admitted to tertiary care hospitals were selected.

Inclusion criteria

All proved cases of non-traumatic intracerebral bleed confirmed by CT scanning on admission were eligible for this study.

Exclusion criteria

Patients who do not consent to participate in the study and patients who were unable to understand the issues of the study. In patients with a depressed level of consciousness, informed consent was asked from a relative. If relatives did not give consent for participation of the patient, or if relatives were unable to understand the issues of the study, we did not include the patient.

The diagnosis of CVA was made based on the following criteria:

a. Temporal profile of clinical syndrome

b. Clinical examination

c. CT scan of the brain

Ethical approval

The study was conducted in accordance with the Declaration of Helsinki and was approved by the local ethics committee of the institute. Informed written consent was obtained from all patients before their enrollment in this study.

Results

Table 1: Age Distribution In Study Group

Age (In Years)	Percentage (%)
31 to 40	4
41 to 50	19
51 to 60	30
61 to 70	30
71 to 80	11
81 to 90	6
Total	100

As evident from the above table, the incidence of intracerebral hemorrhage in the present study was more in the 5th and 6th decade which included 60% of total patients.

Table 2: Sex Distribution in Study Group

Sex	Percentage (%)
Male	52
Female	48

As evident from the above table, the incidence of intracerebral hemorrhage in the present study was slightly more common in males (52%) compared to females (48%).

Table 3: Incidence of Risk Factors in stroke patients

Risk Factor	Percentage (%)
Tobacco	18
Smoking	34
Hypertension	57
Diabetes Mellitus	16
Dyslipidemia	28
Alcohol	9

The above table shows that hypertension was the most common risk factor and was present in 57% of the cases, followed by smoking in 34%, dyslipidemia in 28% of patients.

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Table 4: Symptoms in the study group

Symptom	Percentage (%)
Headache	30
Giddiness	38
Vomiting	42
Right-sided weakness	41
Left-sided weakness	39
Altered sensorium	25

The above table shows that Vomiting was the most common presenting symptom (42 patients) followed by Right-sided weakness (41 patients) followed by left-sided weakness (39 patients) and Giddiness (38 patients). 25 patients were in altered sensorium on presentation.

Table 5: Location of Intracerebral hemorrhage

Location of bleed	Percentage (%)
Gangliocapsular region	58
Lobar bleed	21
Cerebellum	6
Thalamic region	12
Pontine	3

From the above table, it is evident that the Gangliocapsular region was the most common site (58%) of bleed in our patients, followed by Lobar hemorrhages (21%) and thalamic region bleed (12%).

Discussion

Table 1: Age Distribution In Study Group

Age is an important risk factor for Intracerebral hemorrhage; the overall odds of suffering an Intracerebral hemorrhage are highest at and after the age of 85. [4] In our study among the 100 patients, Age of patients ranged from 32-90 years and the mean age of patients was 60.2 years. Intracerebral bleed was more common in the 5th and 6th decades, accounting for 60% of total cases. This is which is comparable to Baidya et al (2014) study [5] where the percentage of patients above 40 years of age was 96%. Similar findings were observed in the study by Narayan et al (2012) [6] where 86.7% of patients were of age more than 40 years. The study by Joy Singh et al (2013) [7] showed similar results with the age of the subjects ranged from 25 to 85 years with a mean age of 58.6 years. The majority of the cases belonged to the age group of 51 to 60 years (31%). The number of cases between 41 to 70 years represented 78% of all cases.

Table 2: Sex Distribution In Study Group

Among the 100 patients, 52 were males and 48 were females (sex ratio was M: F - 1.08:1). The percentage of females in the Baidya et al study was 30 and in Narayan et study [6] was 34.8.

Table 3: Incidence of Risk Factors in Intracerebral Hemorrhage patients

Hypertension is by far the most common attributable risk factor for intracerebral hemorrhage. It accelerates age-related “wear and tear” of cerebral arterioles at branch points. Acute reactive hypertension, far exceeding the patient's chronic hypertensive level, is a feature that, in the context of a stroke, suggests hemorrhage; It is seen particularly with moderate and large clots situated in deep regions. [8]

In our study, hypertension was present in the majority of the cases i.e, 57%, which is comparable with that found in the studies of Baidya et al and Nileshkumar et al [9] i.e. Hypertension was present in 62% and 84% respectively. The next common risk factor was smoking (34%) in our study. It was reported to be present in 20% of cases in the Baidya et al study and 28% of cases in the Nileshkumar et al study.

Dyslipidemia was present in 28% of our study patients whereas it was present in 20% of patients in the Nileshkumar et al study. Diabetes mellitus was present in 16% of patients in our study. Baidya et al reported the presence of Diabetes mellitus in 17% of their patients and Nileshkumar et al reported it in 10% of their patients.

Table 4: Symptoms in the study group

In the present study, hemiparesis/Plegia was present in 80% of the cases, which is comparable to the study of Baidya et al, who reported an incidence of 78%. Nileshkumar et al reported presented presence of hemiparesis/Plegia in 58% of their patients. Vomiting was the next common presenting symptom. It was seen in 42% of cases as in our study. It was present in 29% of patients in the Baidya et al study & 46% of patients in the Nileshkumar et al study.

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Headache was present in 30% of our patients, which is comparable to Baidya et al and Nileshkumar et al who reported frequency of headache in 23% and 44% of cases respectively. Altered sensorium was present in 25% of the total patients in our study, whereas Baidya et al and Nileshkumar M et al, reported the presence of altered sensorium in 53% and 60% of patients respectively. Giddiness was present in 38% of patients in our study compared to 20% of patients as reported by Nileshkumar et al.

Table 5: Location of intracerebral hemorrhage

Intracerebral hemorrhage is defined by its location within the brain parenchyma, with "deep" ICH being located within the basal ganglia and internal capsule (35%-70%), brain stem (5%-10%), and cerebellum (5%-10%). In contrast, "lobar" ICH (15%-30%) refers to hemorrhages located in cortical-subcortical areas and follows a "lobar" pattern across one or less often multiple lobes of the brain. Deep ICH accounts for about two-thirds of spontaneous ICH cases, and lobar ICH accounts for the remaining one-third. [8]

The most common site of hemorrhage in our patients was the Gangliocapsular region 58% which is comparable to findings in the study of Joy Singh et al (2006) [7] and Ghelmez et al (2013) [10] who reported 65% and 32.5% cases of Gangliocapsular bleed respectively. Lobar hemorrhage was present in 21% of our patients compared to 17% and 25% in Joy Singh et al & Ghelmez et al studies respectively. Less common sites of hemorrhage were Thalamus (12%) followed by Cerebellum (6%) and Brain stem (3%) in our study. Similar findings were reported by Joy Singh et al. thalamic bleed was present in 13% of cases followed by brain stem hemorrhage in 3% and Cerebellar bleed in 2% of patients. Ghelmez et al study reported the presence of thalamic hemorrhage in 28.75% of cases, Brain stem hemorrhage in 10% cases, and Cerebellar hemorrhage in 3.75% of cases.

Conclusion

The elderly patient should be routinely screened for hypertension and other risk factors like diabetes, smoking, and dyslipidemia and appropriate measures to be taken to prevent any complications like intracerebral hemorrhage.

Conflict of Interest: None.

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References

1. Dalai PM. cerebrovascular disorders. API Textbook of. Medicine, 9th edition. Jaypee brothers Medical Publishers. 2012; p.796-809.
2. Shinar D, Gross CR, Hier DB, Caplan LR, Mohr JP, Price TR, et al. Interobserver reliability in the interpretation of computed tomographic scans of stroke patients. Arch Neurol 1987;44(2):149-55.
3. Sandercock P, Molyneux A, Warlow C. Value of computed tomography in patients with stroke: Oxfordshire Community Stroke Project. Br Med J (Clin Res Ed) 1985;290(6463):193-7.
4. Aguilar MI, Brott TG. Update in intracerebral hemorrhage. Neurohospitalist 2011;1(3):148-59.
5. Baidya O, Tiwari S, Usman K. Clinical profile of acute hemorrhagic stroke patients: a study in tertiary care hospital in Northern India. Int J Res Med Sci 2014;2(4):1507.
6. Narayan SK, Sivaprasad P, Sushma S, Sahoo RK, Dutta TK. Etiology and outcome determinants of intracerebral hemorrhage in a south Indian population, A hospital-based study. Ann Indian Acad Neurol 2012;15(4):263-6.
7. Singh J, Brogen A, Singh J, Singh BN. CT Scan as a Tool for Predicting Outcome of Stroke due to Intracerebral Haemorrhage at a Referral Hospital. IJPMR 2006;17(12):33-38.
8. Tomar, Ramteke SK, Singh R, Ramteke S. Study of ECG and echocardiographic Abnormalities in Stroke Patients and its Prognostic Significance. J Evol Med Dent Sci 2014;3(11):2693-8.
9. Doctor NM, Pandya RB, Vaghani CV, Marwadi MR. A Study on Clinical Profile, risk factors and Mortality in Hypertensive Intracerebral Haemorrhage in a tertiary care hospital in Surat city. Barfiwala Natl J Med Res 2013;3(4):381-384.
10. Ghelmez D, Tuta S, Popa C. Prognostic factors in hypertensive intracerebral hemorrhage – study on a group of 80 patients. Romanian Journal of Neurology 2013;12(4):1-5.